WHAT IS CLAIMED IS:

1. A system comprising:

a light source emitting light at a selectively variable output power to transmit data at a given data rate; and

a monitor diode positioned to receive at least a portion of the emitted light, the monitor diode having a bandwidth only partially overlapping a lower end of a data transmission spectrum for the data rate.

2. The system according to claim 1, wherein the bandwidth of the monitor diode is less than or equal to one tenth of the data rate.

3. The system according to claim 1, wherein the bandwidth of the monitor diode is less than or equal to one fortieth of the data rate.

4. The system according to claim 1, wherein the monitor diode functions as a low pass filter operating on the light emitted by the light source.

5. The system according to claim 1, further comprising:

peak detectors with exponential decay detecting peak-to-peak amplitude of an output signal for the monitor diode, wherein the peak-to-peak amplitude is directly representative of optical modulation amplitude for the light source.

6. The system according to claim 5, further comprising:

a controller employing the output signals from the peak detectors to control output power from the light source.

7. An optical subassembly including the system according to claim 6, the optical subassembly adapted for transmission of data over an optical transmission medium.

8. A computer including the optical subassembly according to claim 7, the computer further comprising:

a processor coupled to the controller; and

a network connection through the optical subassembly to the optical transmission medium.

9. A method comprising:

emitting light from a light source at a selectively variable output power to transmit data at a given data rate; and

receiving at least a portion of the emitted light at a monitor diode, the monitor diode having a bandwidth only partially overlapping a lower end of a data transmission spectrum for the data rate.

10. The method according to claim 9, wherein the bandwidth of the monitor diode is less than or equal to one tenth of the data rate.

11. The method according to claim 9, wherein the bandwidth of the monitor diode is less than or equal to one fortieth of the data rate.

12. The method according to claim 9, further comprising:

low pass filtering the light emitted by the light source using the monitor diode.

13. The method according to claim 9, further comprising:

detecting peak-to-peak amplitude of an output signal for the monitor diode, wherein the peak-to-peak amplitude is directly representative of optical modulation amplitude for the light source.

14. The method according to claim 13, further comprising:

employing the peak-to-peak amplitude for the output signal for the monitor diodes to control output power from the light source.

15. A system comprising:

a signal source emitting a high frequency signal to transmit data at a given data rate; and

a monitor device receiving at least a portion of the emitted signal, the monitor device having a bandwidth only partially overlapping a lower end of a data transmission spectrum for the data rate.

16. The system according to claim 15, wherein the bandwidth of the monitor device is less than or equal to one tenth of the data rate.

17. The system according to claim 15, wherein the bandwidth of the monitor device is less than or equal to one fortieth of the data rate.

18. The system according to claim 15, wherein the monitor device functions as a low pass filter operating on the high frequency signal emitted by the signal source.

19. The system according to claim 15, further comprising:

peak detectors with exponential decay detecting peak-to-peak amplitude of an output signal for the monitor device.

20. The system according to claim 19, wherein the signal source is a light source emitting light to transmit data at the data rate, the monitor device is a low bandwidth monitor diode receiving at least a portion of the emitted light, and the peak-to-peak amplitude detected by the peak detectors is directly representative of optical modulation amplitude for the light source, the system further comprising:

a controller employing the output signals from the peak detectors to control output power from the light source.